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The Role of Education in Overcoming Violated Reciprocity between Man and Nature

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Abstract

Within the intentions of eco-social educational theories, the author characterizes the so-called biophile (pro-natural) orientation of education. Considering that nature is a permanent part of the educational content and also a means of education, the author points out the possibilities of school instruction to overcome the manipulative perception of nature and primitive egocentric beliefs and values. She emphasizes the experiential and learning-by-doing orientation of the instruction and the work with children's images of the world of nature, which can develop a new way of critical thinking, leading to cessation of the existing way of damaging nature and to the anthropocentrism which is subdued to the environmental discipline and ethical awareness.

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1. Background – reasons for the choice of the theme

The transformation of educational goals and missions has been, since the second half of the 20th century, supported by opinions of experts who claim that the environmental crisis is an *"outer manifestation of a crisis of mind and spirit"* (Winter and Koger, 2009) which is related to the *"great perception crisis"*, i.e. certain inability of a *"too civilized human to perceive and decode what nature tells him"* (Abram, 2009). The eco-social theories of education are built on this basis, focusing on the transformation of the society and preferring, in the area of education, the development of ecological thinking and a global view of relationships between individuals, society and the universe. They demand "blowing up" of the fragmented view of nature and society, exploring "belonging to

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life and to substance" and gaining "a consciousness of global functioning of the social organism" (Grand'Maison, De Rosnay, Morin, Bertrand & In Toffler, 1998, pp. 227-228).

Education is therefore gaining particular importance for overcoming the disturbed reciprocity between man and nature. Its content structure has to be in agreement not only with today's knowledge about the world, but according to Šmajs (2008), also with an evolutionary-ontological minimum, forming the basis of emotionally tinged human system of values. Overcoming of self-centred opinions and the preference for values and efforts of a new spiritual integration of man into the whole of nature and culture are typical of the so-called environmental approach to education.

It is characterized by a new way of critical thinking which reflects the global and partial dimension of the non-compliance of culture with nature. It should contribute to the cessation of the existing way of damaging nature and to the anthropocentrism which is subdued to the environmental discipline and ethical awareness. The existing pragmatic-utilitarian function of education is often considered to be the principal obstacle to the so-called biophile (pro-nature) orientation of the education.

2. Biophile orientation of education

The questions related to the formation of a man's relationship to the environment come therefore on the agenda, especially those related to the natural component which is threatened by the civilization development and the contemporary lifestyle. The influence of school is, in terms of systematic and sophisticated understanding of nature and culture in the sense of "life wishing, life respecting and protecting" or biophile oriented education, irreplaceable. Within its framework, a pupil creates a certain image of the world (natural, cultural and social) in the language of different school subjects (biology, chemistry, history, mathematics, Czech language, education, etc.). As Wilson (1999, p. 322) mentions each school subject handles "completely differently the rich, complex and integrated phenomenon of life and each of them finds the true meaning only in the whole knowledge, which is a determining orientation constant for a human and his life."

In school practice, this means that it is necessary to replace the superiority of partial information and the passive acquisition of knowledge by encouraging procedural thinking and sensitivity for bonds and connections within nature. The second requirement is to systematically explain the value priority of nature for human life and the fact that it is not necessary to protect the natural world only to make it continue to serve people; nature has a value sui generis, i.e. regardless of the human needs.

Within the instruction, the views that all value comes from man and that only humans needs should be taken into consideration, that everything else is here for us and the Earth (nature) is not taken into consideration, are being overcome. Therefore it is not appropriate to present nature only as an unlimited source of raw materials which people use for their needs and, at the same time, as a space in which the can move freely, regardless of the damage caused;

Systemic and evolutionary way of thinking is being reinforced in the sense that *„we do not create nature, we do not bear any responsibility for its functioning and evolution which take place even without us"*; we should *„use nature with consideration, love it and worship it, and only minimally trouble and burden it"*; man is responsible for culture, his own work which unnecessarily harms the natural system (Šmajs, 2008, p. 58).

In explaining what nature, culture, evolution and its products are, we particularly point out that the material culture "*is based solely on material and energy, which were built within unique natural structures*" (Šmajs, 2008, p. 54).

The transition from running away from nature towards value rehabilitation of nature is supported by the imprinting of life as the highest value.

3. Shaping the relationship to nature (environment)

The turnover from the anti-natural towards pro-natural orientation in education assumes coherence, reciprocity and mutual cooperation (consilience) of school subjects, which may "clarify even the problem of human responsibility for culture" (Šmajs, 2001, p. 222).

The restoration of an inner emotional relationship of children to nature is one of the prerequisites for overcoming the crisis of civilization. The shaping of the relationship to nature is based on exploring nature and culture as a process of understanding of the inner connections between objects and phenomena.

In contrast to specific human phenomena, such as art, culture or language, nature acts as an important environment for human life, as *„the source of the original, eternal"*, as *„substrate"* on which the knowledge is being developed (Held, 2001, p. 348). In contact with nature, the ability to observe, notice different characters, to discover and compare various objects and phenomena, to classify, differentiate and group them according to different criteria, is developed. Situations which are deliberately induced as well as random situations provide an opportunity to talk about stereotypes and to solve tasks, make decisions and justify on the part of pupils. Nature thus becomes part of the content and at the same time a means of education.

In the following part we are going to clarify selected learning processes to achieve the objectives in shaping the relationship to nature (environment) at three levels – cognitive, cognitive-affective and cognitive-motor.

The cognitive aspect is saturated by the intermediation of the image of the complex character of natural environment, of the inseparability of the individual components, of their mutual interconnection. It is clarified what is nature, culture, evolution and its products and mainly that the material culture is *"is based solely on substance and energy, which were built in unique natural structures"* (Šmajs, 2011, p. 227). This is connected with the explanation of the value priority of nature for human life and mainly the fact that the natural world is not only to be protected so that it could continue to serve people; nature has value sui generis, i.e. regardless of the human needs.

Systemic exploring of the relationship between nature and culture implies the replacement of the superiority of partial information and the passive acceptance of knowledge by encouraging procedural thinking and sensitivity for links and connections in nature. This includes strengthening the system and evolutionary way of thinking while respecting that *"we do not create nature, we are not responsible for its functioning and evolution, which take place even without us"*; man is only responsible for culture, for his work, which needlessly harms the natural system. The author considers the vague concept of culture to be one of the causes of *"human indifference, social resignation and scepticism"* (Šmajs, 2011, p. 236).

Referring to the qualitative character of the important features of the natural environment (the aesthetic element) and cultivating the sense of responsibility, moral justifiability of human behaviour (ethical element) belongs to the cognitive-affective domain. It is associated with the acquisition of ethical principles of conduct and behaviour and overcoming primitive egocentric beliefs and values, especially the indifference and arrogance towards nature. In the aesthetic area, it leads to the development of abilities to perceive experience and evaluate the mystery and beauty of nature as a whole, providing conditions for human mental and physical health. There are studies (Krajhanzl, 2005; Abram, 2009; Franek, 2013; Strejčková, 2005, etc.) which confirm the importance of the emotional experience based on the contact with nature.

And that is why it is advisable to prioritize, in terms of timing, the principle of experience above reasoning, understanding, rational explanation (especially in younger pupils). If a pupil/student accepts a certain value in this emotional way, it is expected that after the rational justification, it will become his permanent property and personal value (Horká, 2005, p. 78). In this way it is possible to ensure the transition from receding / alienating from nature to value rehabilitation of nature by imprinting life as the highest value.

Cognitive-motor area consists of a set of skills and habits which are necessary for a stay in the countryside and desirable conduct in the sphere of taking care after nature. This empirical element counts on providing opportunities to a direct contact with the environment, to observation, measurement, interpretation and discussion.

4. Possibilities of school instruction – didactic view

The process of learning does not take place only spontaneously, randomly and in an unorganized manner, but also systematically – by leadership, planning and management. At school, systems of knowledge which reflect the real objective world of nature and culture are formed. Pupils actively get to know the world through independent discovery, which further leads to inventing and creativity. They create, develop and deepen their knowledge based on their experience and that is why it is appropriate to combine exploration of nature with the effective application in everyday life and confrontation with real events and issues. Practical and conceptual knowledge can replace the often superficial "half-hearted" factual knowledge (Hann, 1993, p. 52; Pfligersdorffer, 1993, p. 73).

To overcome the manipulative perceptions of nature and human society, it is appropriate to choose evidence to illustrate a specific problem, to use problems of a particular area (get to know the local river, hill, etc.), apply it to human life and ask self-reflective questions such as: What do I know? What consequences will my behaviour and actions have for nature, for others, for next generations? What can I restrain from? What can I do?

The acquisition of knowledge in an abstract form is not effective enough. Although verbal communication is more convenient and the use of images "saves time", children are deprived of real experiences from observation in nature. The inclusion of different activities (games, manipulation with objects, observation of natural and social phenomena, preparation of exhibitions, experimentations, excursions, meetings with interesting people, continuous maintenance of a well, animals, flowers, work in the garden, etc.) meets the demands of experiential and procedural teaching (Skalková, 2007; Saylan & Blumstein, 2011).

The orientation towards activity allows dealing not only with cognitive, but mainly sensorimotor aspect of subjects and the content of learning. An activity-oriented learning process "closes" when an individual can independently and consciously realize an inner activity, e.g. drawing or modelling products of nature proves useful. As Máchal (1996. p. 60) mentions, "even an unskilfully drawn daisy flower provides its author with more knowledge about the structure of a bloom and shape of a leaf than the best photography."

The emerging "images of the natural world" reflect, to a large extent, pupil's experience and they are further transformed, regrouped and merged with a series of already existing subjective "images of the world" into the so-called cognitive structures by the pupil. Each pupil has their own individual structure of the world and their own ways of understanding the real world. Various stimuli can therefore cause the same reactions in different people and on the contrary, the same stimuli can lead to different reactions. The change of the relationship to nature, followed by considerate behaviour, is influenced not only by attitudes, but also by different *"mental actions, phenomena, characteristics and states of an individual which are directly focused on nature"* (Krajhanzl, 2010, p. 259)

Into the five basic characteristics of the relationship to nature, Krajhanzl (2010, p. 259) includes the need for contact with nature (to be outside in harmoniousness with nature), an adaptation to contact with nature (to be able to cope in the countryside in harmoniousness with nature, to stay and move around in the countryside, to have a basic command of some skills), aesthetic attitude to nature (degree of mindfulness and sensitivity to nature), ethical attitude to nature *(personal moral ideas, awareness of the consequences of one's own actions and acceptance of the responsibility for one's own actions)*, environmental awareness *(awareness of the seriousness of the ecological situation)*.

From the didactic point of view, the instruction which is dominated by mechanical learning, memorizing without understanding, without revealing connections and mutual relations, interdependence and without the interdisciplinary approach and contact with the natural environment, proves to be ineffective. Prioritizing dictionary rationality, encyclopaedic knowledge, technical achievements and scientific progress may encourage predatory attitude of man to nature and only minimally cultivate the emotional component of human personality. If we understand education as a correlative cultivation of the external (i.e. natural, cultural and social) and internal world of man (Kučerová, 1996, p. 199; Blížkovský, 1997, p. 128), then also the cultural acquisition of the reality not only in their object form but also personal form, deserves its attention.

5. Conclusion

The problems of values education and the education to strengthen the spiritual dimension confirm our, as well as foreign, experience. Education towards the values of a more demanding way of life (not only superficial consumer

needs satisfaction) is a difficult and multilateral process which is based on a complex experience of a pupil. Inducing this experience and consolidating it within the child's consciousness as a desirable experience is difficult. It requires acceptance of the fact that a child is, apart from family and loving mother, under the influence of "*two impersonal mothers: Mother Nature and also a familiar group of people, Collective Mother"* with whom his parents are in touch. After birth, an existing anti-natural tradition, created within the formation of culture as a "product" of man's belief in progress and well-being, enters his life. It is necessary to be aware of this fact and to sensitively, thoughtfully and with pedagogical tact, develop the spiritual dimension of man through natural means such as experience from good interpersonal relationships, distinguishing good from evil and adhering to the good; discovering the beauty of nature; sociability, solidarity with others, etc.

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